



Healthcare Organization Database Project

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ABSTRACT

The main intention of introducing this system is to reduce the manual work at Health center counters. Every sort of task is performed by the system, such as registering different types of persons (i.e employees, patients, doctors and others), reducing much paperwork and burden of file storage. The system also facilitates the billing of patients.

With the help of this system there will be no burden of finding the doctors rather the doctor himself will update whether he is available or not.

As per the symptoms and doctor's availability the doctors are assigned to the patients.

Where the system must be placed?

There are a lot of benefits to the Health center by placing the system at their reception. At the same time the patients are also benefited using this system as they instantly know about their doctors and their availability.

How to use the system?

Using the system is as simple as using the personal computer. Every step is clearly defined and help is provided through out the application to the user as they will be registered in presence of receptionist who will be a designated person. Even the exceptions are handled well to avoid confusion.

How is it beneficial to the Health Center?

The health center can get much out of the system. The system is used to enter the patient details and keeps a database of every doctor as per their



departments. Nurses and wardboys are also stored and are assigned to doctors as per requirements

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INTRODUCTION

This project is basically designed for systematic organization of doctor and patient entries of a health care centre. There is easy implementation of billing and assigning doctors, nurses to each patient according to their needs. We have made 7 to 8 database tables for easy storage of each data. Some of the tables are connected through foreign keys thus making the work easy.

BRIEF OVERVIEW:

To develop a system which has a database of doctors, patients, receptionists, nurses and wardboys.

Admin:

Admin registers the doctors, receptionist, nurses and wardboys of the organization.

Receptionist:

Receptionist registers patients and assigns them doctor as per patient's requirements and doctor's availability. Billing or payments status are a part of receptionist work. He also assigns nurses and wardboys to each doctor.

Doctor:

The doctor updates his availability status. After seeing the patient, he updates the health status of patient and whether further diagnosis is required or not.



FUNCTIONALITIES IMPLEMENTED

1. Home page is formed with admin login, doctor login and receptionist login.
2. Admin logins using username and password.
3. Admin registers doctors, receptionists, nurses and wardboys by email-ids as username. Random password is generated and sent to their respective mails (for doctors and receptionists). This password will be required during login .
4. Receptionist logins using his email id and password. He then registers patients and assigns them a doctor, nurse and wardboy in the required department (if available).
5. Doctor logins using his email id and password. He can check the patients that he is assigned to. He can then after treatment change the patient's status which is then used by receptionist for further requirements.
6. Nurses and wardboys each have their respective login portal.
7. The receptionist after treatment enters the bill and amount paid in the patient table to maintain a record of the bill due and paid.

Basically we have a home page of the organization.

We have different login portals for admin, doctor, receptionist, nurses and wardboys.

Since password is generated randomly and is sent to their respective email ids, their account is more secure.



TECHNOLOGIES USED:

BACK-END

1.PHPMYADMIN

2.MYSQL

FRONT-END

3.HTML

4.CSS

5.BOOTSTRAP

6. JAVASCRIPT

7. AJAX

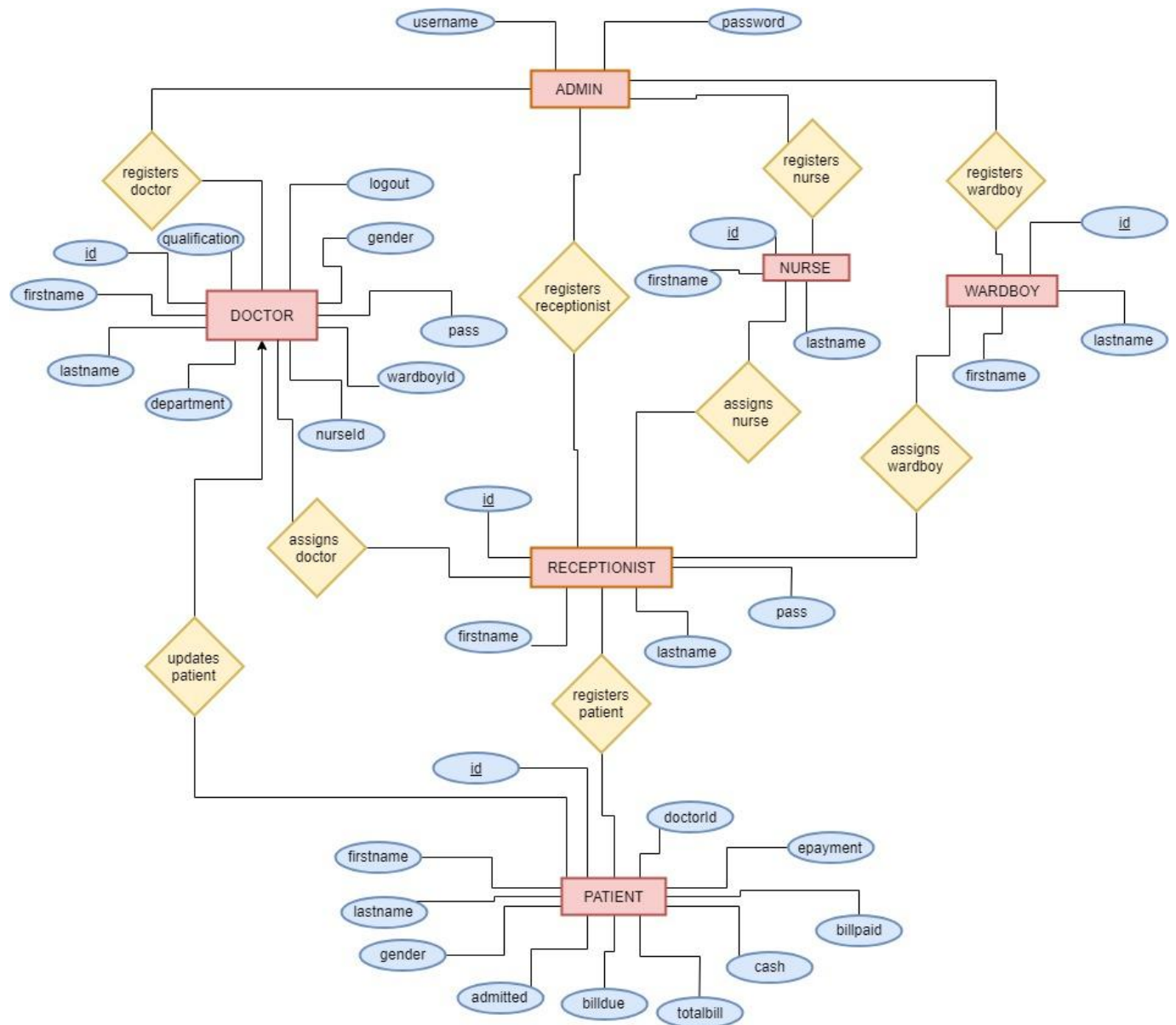
MISCELLANEOUS

8. GIT and GITHUB

9. VISUAL STUDIO CODE

10. DRAW.IO

ER DIAGRAM



DESIGN & CODE

CREATING TABLES FOR DOCTOR, PATIENT, RECEPTIONIST, NURSE AND WARDBOY

```
$sql = "CREATE TABLE doctor (  
id VARCHAR(100) PRIMARY KEY,  
firstname VARCHAR(100) NOT NULL,  
lastname VARCHAR(100) NOT NULL,  
department VARCHAR(100) NOT NULL,  
nurseId INTEGER,  
wardboyId INTEGER,  
FOREIGN KEY(nurseId) REFERENCES nurse(id),  
FOREIGN KEY(wardboyId) REFERENCES wardboy(id),  
logout INTEGER,  
pass VARCHAR(50) NOT NULL,  
gender INTEGER NOT NULL,  
qualification VARCHAR(100)  
);"  
  
$sql = "CREATE TABLE patient (  
id INTEGER AUTO_INCREMENT PRIMARY KEY,  
firstname VARCHAR(100) NOT NULL,  
lastname VARCHAR(100) NOT NULL,  
gender INTEGER NOT NULL,  
admitted INTEGER DEFAULT 0,  
billdue INTEGER,  
totalbill INTEGER,  
billpaid INTEGER,  
cash INTEGER,  
epayment INTEGER,  
doctorId VARCHAR(100),  
nurseId INTEGER,  
wardboyId INTEGER,  
aadhar VARCHAR(100) UNIQUE NOT NULL,  
FOREIGN KEY(doctorId) REFERENCES doctor(id),  
FOREIGN KEY(nurseId) REFERENCES nurse(id),  
FOREIGN KEY(wardboyId) REFERENCES wardboy(id)  
);"
```

```
$sql = "CREATE TABLE receptionist
id VARCHAR(100) PRIMARY KEY,
pass VARCHAR(50) NOT NULL,
firstname VARCHAR(100) NOT NULL,
lastname VARCHAR(100) NOT NULL
)";
```

```
$sql = "CREATE TABLE nurse (
id INTEGER AUTO_INCREMENT PRIMARY KEY,
firstname VARCHAR(100) NOT NULL,
lastname VARCHAR(100) NOT NULL
)";
```

```
$sql = "CREATE TABLE wardboy (
id INTEGER AUTO_INCREMENT PRIMARY KEY,
firstname VARCHAR(100) NOT NULL,
lastname VARCHAR(100) NOT NULL
)";
```

RECEPTIONIST LOGIN

```
@$email=$_POST['username'];
@$pass=$_POST['pass'];
if(empty($email)||empty($pass))
{
    echo('<script type="text/javascript">
    |         alert("All fields are compulsory");
    |         </script>');
}
else
{
    $encpass=md5($pass);
    $query="SELECT * FROM receptionist WHERE id='$email' AND pass='$encpass'";
    $result=mysqli_query($conn,$query);

    if(mysqli_num_rows($result)>0)
    {
        $_SESSION['username']=$email;
        header("Location: receptionisthome.php");
    }
    else
    {
        echo('<script type="text/javascript">
        |         alert("Invalid username or password");
        |         </script>');
    }
}
```

DOCTOR REGISTRATION

```
if(empty($fname)||empty($lname)||empty($email)||empty($depat)||empty($gender)||empty($qualification))
{
    echo('<script type="text/javascript">
        alert("All fields are compulsory");
    </script>');
}
else if (!preg_match("/^[a-zA-Z]*$/",$fname)||!preg_match("/^[a-zA-Z]*$/",$lname)) {
    echo "<script type='text/javascript'>
        alert('Only Letters allowed');
    </script>";
}
else
{
    $password=rand(10000,99999);
    $mod=1000000007;
    for($i=0;$i<5;$i++)
    {
        $password=$password*rand(10000,99999);
        $password=$password%$mod;
    }
    $encpassword=md5($password);
    $query="SELECT * FROM doctor WHERE username='$email'";
    $result=mysqli_query($conn,$query);
    if(mysqli_num_rows($result)>0)
    {
        echo "<script type='text/javascript'>
            alert('Email id already registered');
        </script>";
        die();
    }
}
```

```
$subject="Do not Reply";
$text="Dear User,\nYour username is $email and password is $password. Please use it to Login in the future"
$headers="From: ayushdubey957@gmx.com";
if(mail($email,$subject,$text,$headers)){
    $tablename="doctor";
    if($depat=="1")
        $department="Department of Plastic Surgery";
    else if($depat=="2")
        $department="Department of Gastroenterology";
    else if($depat=="3")
        $department="Department of Dentistry";
    else if($depat=="4")
        $department="Department of Radiation Oncology";
    else if($depat=="5")
        $department="Department of Cardiac Surgery";
    else if($depat=="6")
        $department="Department of Nephrology";
    else if($depat=="7")
        $department="Department of Urology and Andrology";
}
```

```

else if($depat=="7")
    $department="Department of Urology and Andrology";
else if($depat=="8")
    $department="Department of Gynaecology";
$query="INSERT INTO $tablename(id,firstname,lastname,department,pass,gender,qualification)
VALUES('$email','$fname','$lname','$department','$encpassword','$gender','$qualification')";
if(mysqli_query($conn,$query))
    echo('<script type="text/javascript">
        alert("Insert Succesful");
    </script>');;
}
else
{
    echo "<script type='text/javascript'>
    alert('Error sending mail');
    </script>";
    die();
}

```

DOCTOR LOGIN

```

@$email=$_POST['username'];
@$pass=$_POST['pass'];
if(empty($email)||empty($pass))
{
    echo('<script type="text/javascript">
        alert("All fields are compulsory");
    </script>');
}
else
{
    $encpass=md5($pass);
    $query="SELECT * FROM doctor WHERE id='$email' AND pass='$encpass'";
    $result=mysqli_query($conn,$query);

    if(mysqli_num_rows($result)>0)
    {
        $_SESSION['username']=$email;
        header("Location: doctorhome.php");
    }
    else
    echo('<script type="text/javascript">
        alert("Invalid username or password");
    </script>');
}

```

PATIENT REGISTRATION

```
$fname=$_POST['fname'];
$lname=$_POST['lname'];
$gender=$_POST['gender'];
$depat=$_POST['dept'];
$aadhar=$_POST['aadhar'];
if(empty($fname)||empty($lname)||empty($depat)||empty($gender)||empty($aadhar))
{
    echo('<script type="text/javascript">
        alert("All fields are compulsory");
    </script>');
}
else if (!preg_match("/^[a-zA-Z]*$/",$fname)||!preg_match("/^[a-zA-Z]*$/",$lname)) {
    echo "<script type='text/javascript'>
    alert('Only Letters allowed');
    </script>";
}
else
{
    $tablename="patient";
    if($depat=="1")
        $department="Department of Plastic Surgery";
    else if($depat=="2")
        $department="Department of Gastroenterology";
    else if($depat=="3")
        $department="Department of Dentistry";
    else if($depat=="4")
        $department="Department of Radiation Oncology";
    else if($depat=="5")
        $department="Department of Cardiac Surgery";
    else if($depat=="6")
        $department="Department of Nephrology";
    else if($depat=="7")
        $department="Department of Urology and Andrology";
    else if($depat=="8")
```

```

else if($depat=="8")
    $department="Department of Gynaecology";
$_SESSION['dept']=$department;
$query="INSERT INTO $tablename(aadhar,firstname,lastname,gender)
        VALUES('$aadhar','$fname','$lname','$gender')";
if(mysqli_query($conn,$query))
{
    $_SESSION['aadhar']=$aadhar;
    header("Location: assigndoctor.php");
}
else
    echo('<script type="text/javascript">
        alert("Error inserting");
    </script>');
}
}

```

ASSIGNING DOCTOR,NURSE AND WARDBOY

```

echo '<form action="assigndoctor.php" method="POST">';
echo '<select style="width:15%;padding:8px;margin-left:15%;" name="doctor">';
if (mysqli_num_rows($result) > 0) {
    echo '<option value="-1">Select Doctor</option>';
    while($row = mysqli_fetch_assoc($result)) {
        $id=$row['id'];
        $fname=$row['firstname'];
        $lname=$row['lastname'];
        $name=$fname.' '.$lname;
        echo '<option value=".'.$id.'">.'.$name.'</option>';
    }
    echo "</select>";
    echo '<select style="width:15%;padding:8px;margin-left:10%;" name="nurse">';
    if (mysqli_num_rows($nurse) > 0) {
        // output data of each row
        echo '<option value="-1">Select Nurse</option>';
        while($row = mysqli_fetch_assoc($nurse)) {
            $id=$row['id'];
            $fname=$row['firstname'];
            $lname=$row['lastname'];
            $name=$fname.' '.$lname;
            echo '<option value=".'.$id.'">.'.$name.'</option>';
        }
    }
}

```

```

echo "</select>";
echo '<select style="width:15%;padding:8px;margin-top:1px;margin-left:10%;" name="wardboy">';
if (mysqli_num_rows($wardboy) > 0) {
    // output data of each row
    echo '<option value="-1">Select Wardboy</option>';
    while($row = mysqli_fetch_assoc($wardboy)) {
        $id=$row['id'];
        $fname=$row['firstname'];
        $lname=$row['lastname'];
        $name=$fname.' '.$lname;
        echo '<option value="'.$id.'">'.$name.'</option>';
    }
}
echo "</select>";
echo '<button style="margin-top:50px;margin-left:40%;margin-bottom:100px;padding:12px 20px;back
</form></div>';

$pid=$_SESSION['aadhar'];
if(isset($_POST['but']))
{
    $tablename="patient";
    $did=$_POST['doctor'];
    $nid=$_POST['nurse'];

```

```

$wid=$_POST['wardboy'];
if($did== -1 || $nid== -1 || $wid== -1)
{
    echo('<script type="text/javascript">
        alert("All fields are compulsory");
    </script>');
}
else
{
    $update="UPDATE patient SET doctorId='$did', nurseId='$nid', wardboyId='$wid',admitted='1' WHERE aadhar=$pid";
    mysqli_query($conn,$update);
    header ("Location: billpayment.php");
}

```

VIEWING PATIENTS

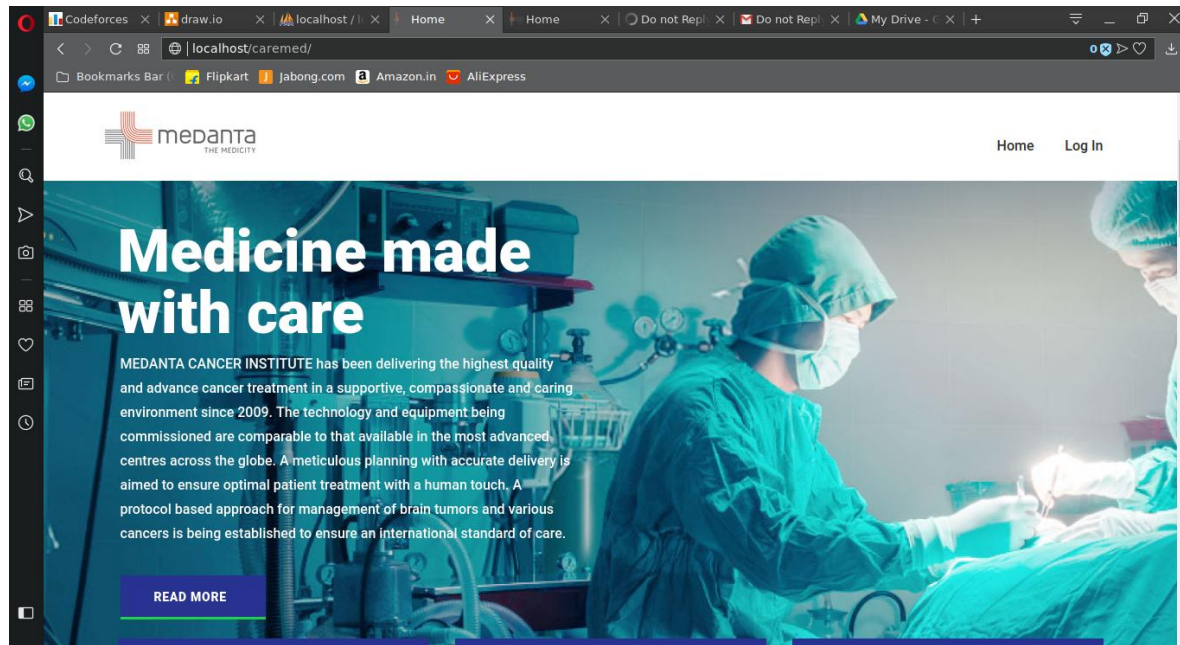
```
session_start();
$email=$_SESSION['username'];
$servername = "localhost";
$username = "Ayush";
$password = "abcdefgh";
$dbname = "medanta";
$conn = mysqli_connect($servername, $username, $password, $dbname);
$tablename="patient";
$sql = "SELECT firstname, lastname FROM patient WHERE doctorId='$email'";
$result=mysqli_query($conn,$sql);
$u=1;
if (mysqli_num_rows($result) > 0) {
    while($row = mysqli_fetch_assoc($result)) {
        $fname=$row['firstname'];
        $lname=$row['lastname'];
        $name=$fname.' '.$lname;
        echo "$u) $name<br>";
        $u=$u+1;
    }
}
else
{
    echo "No Patients assigned";
}
```


BILL PAYMENT

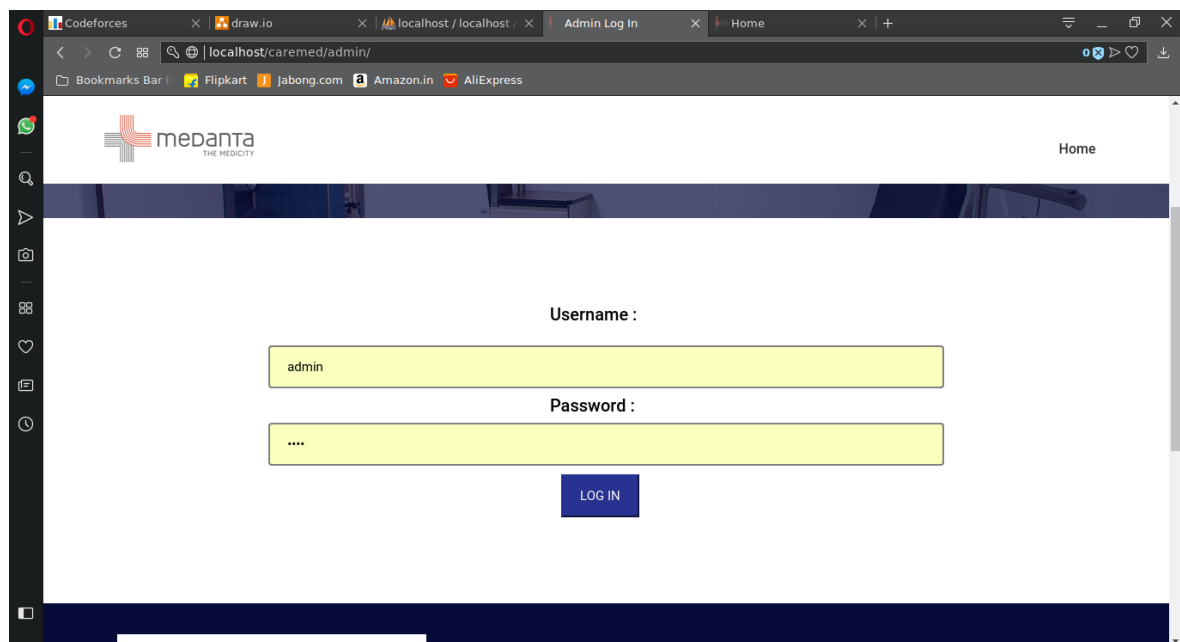
```
$conn = mysqli_connect($servername, $username, $password, $dbname);
$tablename="patient";
$tamt=$_POST['totalbill'];
$bill=$_POST['billpaid'];
$mode=$_POST['mode'];
if(empty($tamt)||empty($bill))
{
    echo('<script type="text/javascript">
    | alert("All fields are compulsory");
    </script>');
}
else
{
    if($mode==1)
    | $mode="cash";
    else
    | $mode="epayment";
    $due=$tamt-$bill;
    $update="UPDATE patient SET totalbill='$tamt', billpaid='$bill', billdue='$due', $mode='$bill' WHERE aadhar=$pid";
    mysqli_query($conn,$update);
    header("Location: receptionisthome.php");
}
```

TESTING\RESULT

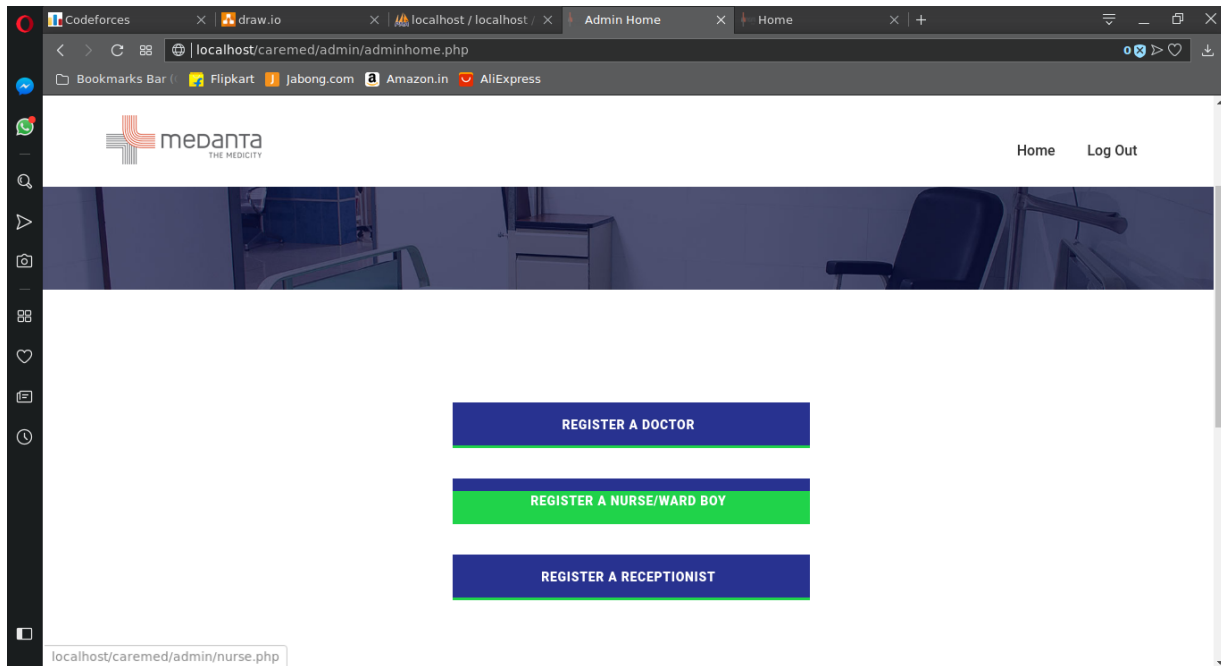
HOME PAGE



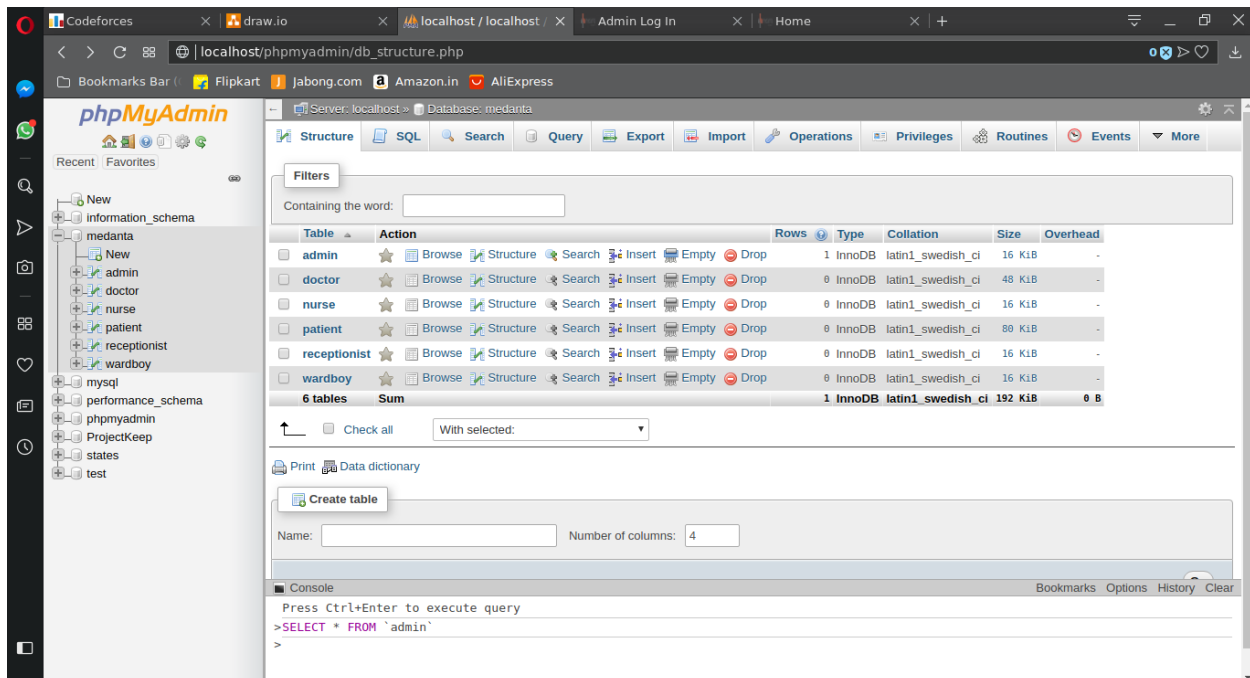
ADMIN LOGIN



ADMIN HOME PAGE



DATABASE BEFORE REGISTERING ANYONE

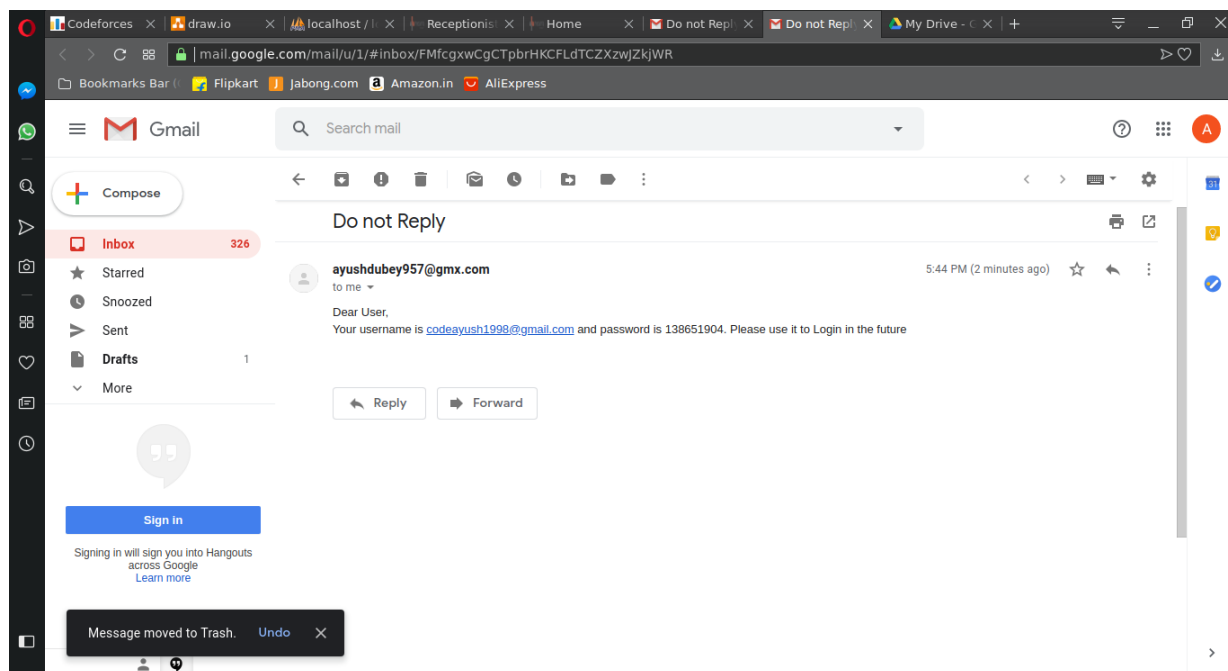


RECEPTIONIST REGISTRATION PAGE

The screenshot shows a web browser window with the URL `localhost/caremed/admin/receptionist.php`. The page features the Medanta logo and navigation links for 'Home' and 'Log Out'. The registration form includes the following fields and labels:

- Email * :** A text input field containing `codeayush1998@gmail.com`.
- First Name * :** A text input field containing `Deepak`.
- Last Name * :** A text input field containing `Koushal`.
- REGISTER**: A blue button to submit the registration form.

MAIL SENT TO RECEPTIONIST'S EMAIL



CHANGE IN RECEPTIONIST TABLE

The screenshot shows the phpMyAdmin interface for a database named 'medanta'. The 'receptionist' table is selected, and its structure is displayed. The table has four columns: 'id', 'pass', 'firstname', and 'lastname'. The query results show one row of data:

id	pass	firstname	lastname
codeayush1998@gmail.com	29f2d87f94232a73d7125891ab5d3d2e	Deepak	Koushal

The console shows the following SQL queries:

```

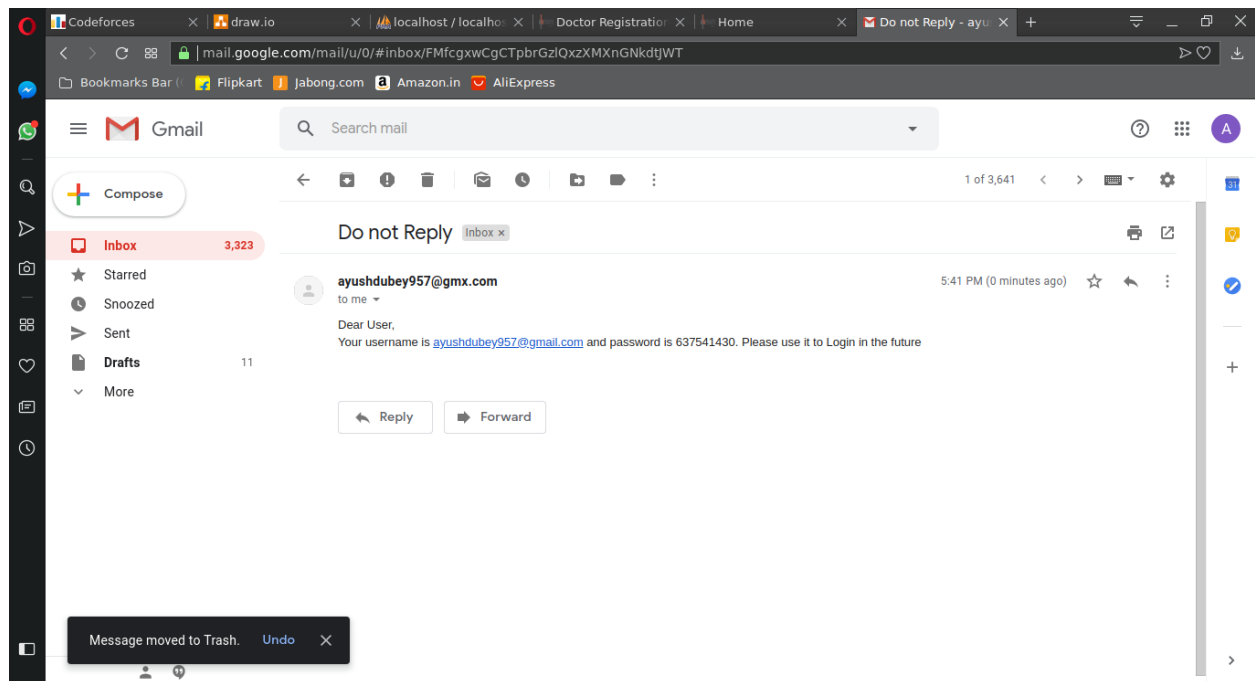
> SELECT * FROM `doctor`
> SELECT * FROM `receptionist`
  
```

DOCTOR'S REGISTRATION PAGE

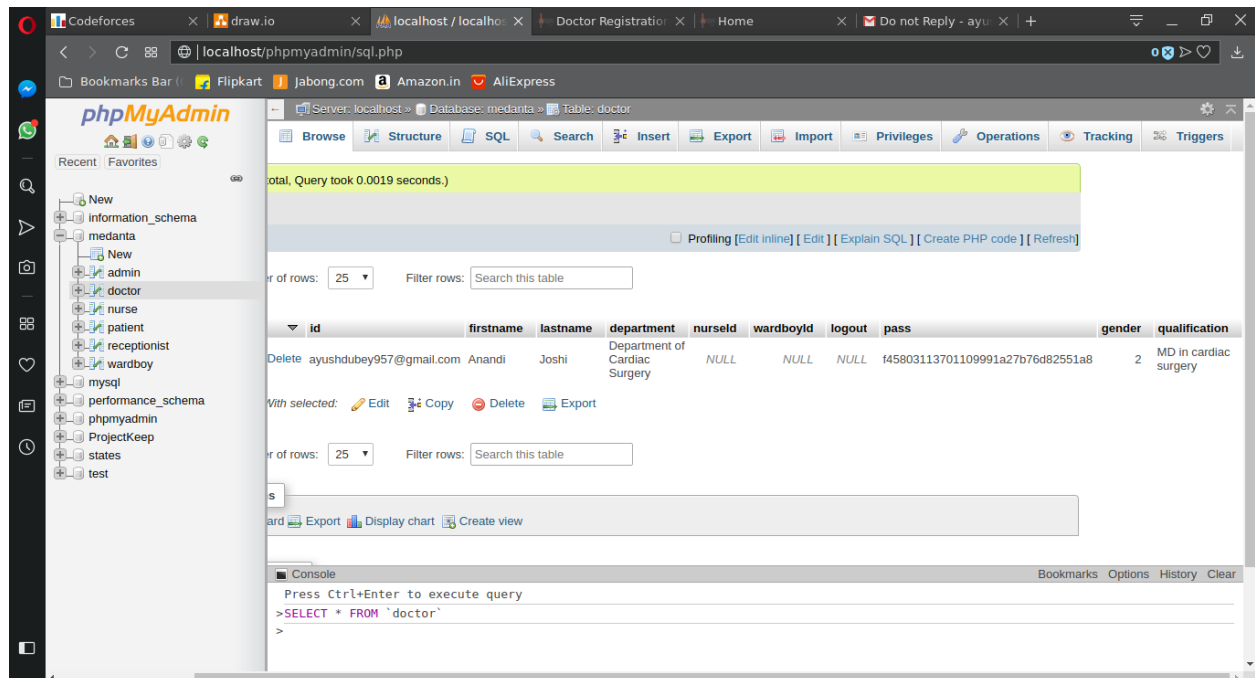
The screenshot shows the 'Doctor Registration' page in the Medanta application. The page includes the Medanta logo and navigation links for 'Home' and 'Log Out'. The registration form contains the following fields:

- Email: ayushdubey957@gmail.com
- First Name *: Anandi
- Last Name *: Joshi
- Department*: Department of Plastic Surgery
- Gender*: ☐ Male ☒ Female
- Qualification *:

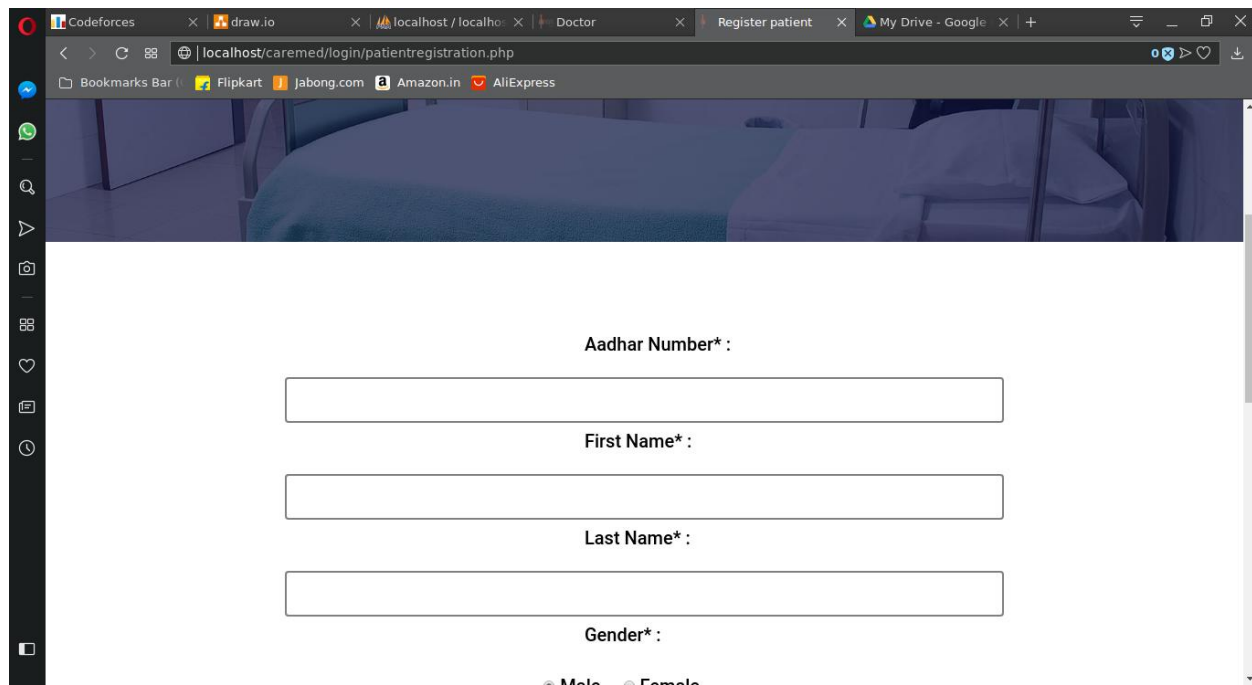
EMAIL SENT ON DOCTOR'S EMAIL



CHANGE IN DOCTOR'S TABLE



PATIENT'S REGISTRATION



Aadhar Number* :

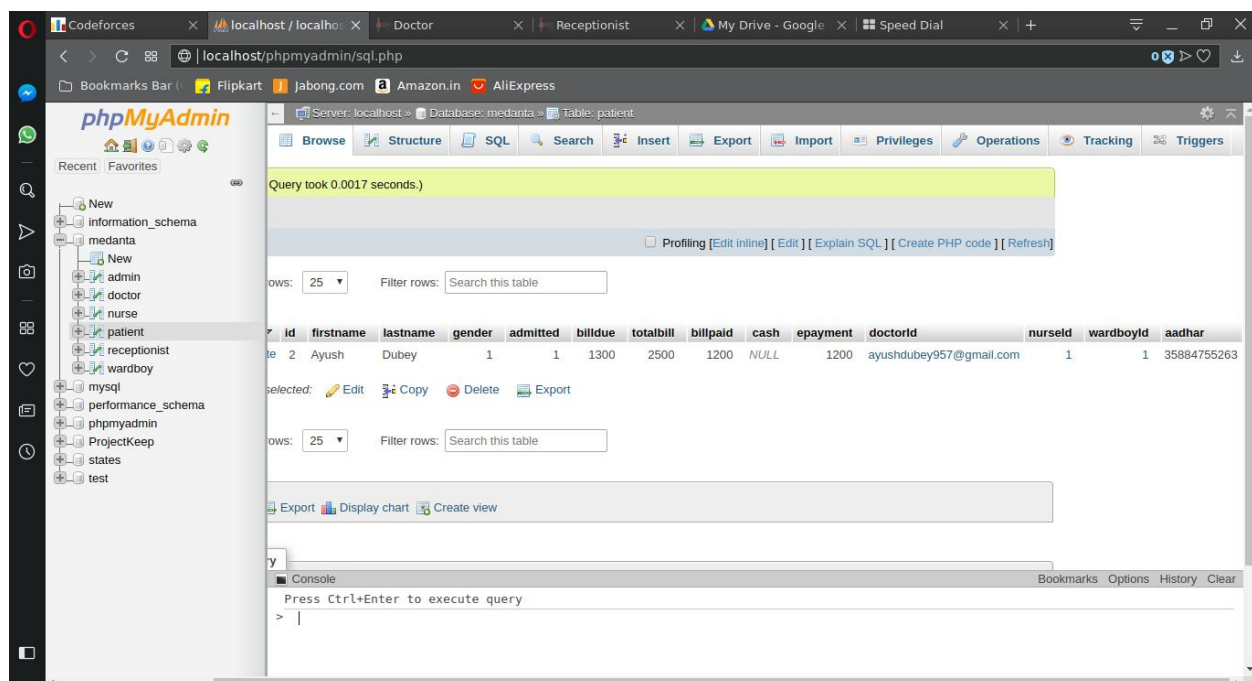
First Name* :

Last Name* :

Gender* :

☐ Male ☐ Female

PATIENT TABLE AFTER INSERTING



Query took 0.0017 seconds.)

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Rows: 25 Filter rows: Search this table

	id	firstname	lastname	gender	admitted	billdue	totalbill	billpaid	cash	epayment	doctorid	nurseld	wardboyid	aadhar
1	2	Ayush	Dubey	1	1	1300	2500	1200	NULL	1200	ayushdubey957@gmail.com	1	1	35884755263

Selected: Edit Copy Delete Export

Rows: 25 Filter rows: Search this table

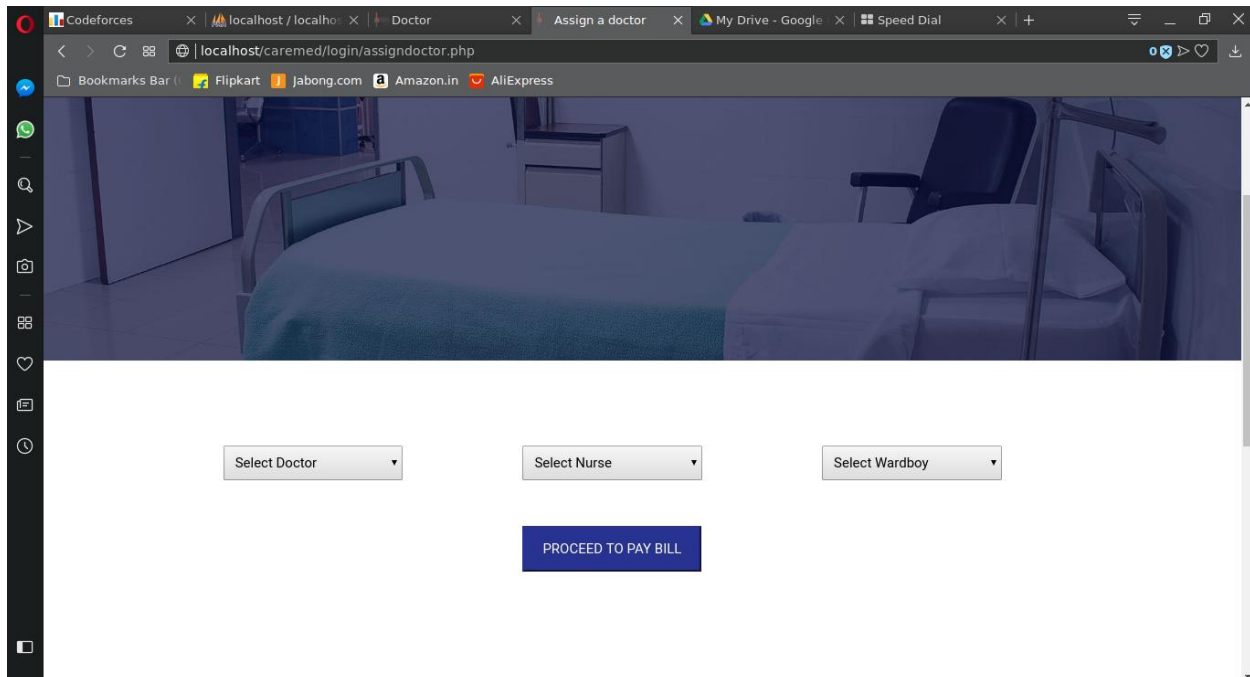
Export Display chart Create view

Console

Press Ctrl+Enter to execute query

> |

ASSIGNING DOCTOR



localhost/caremed/login/assigndoctor.php

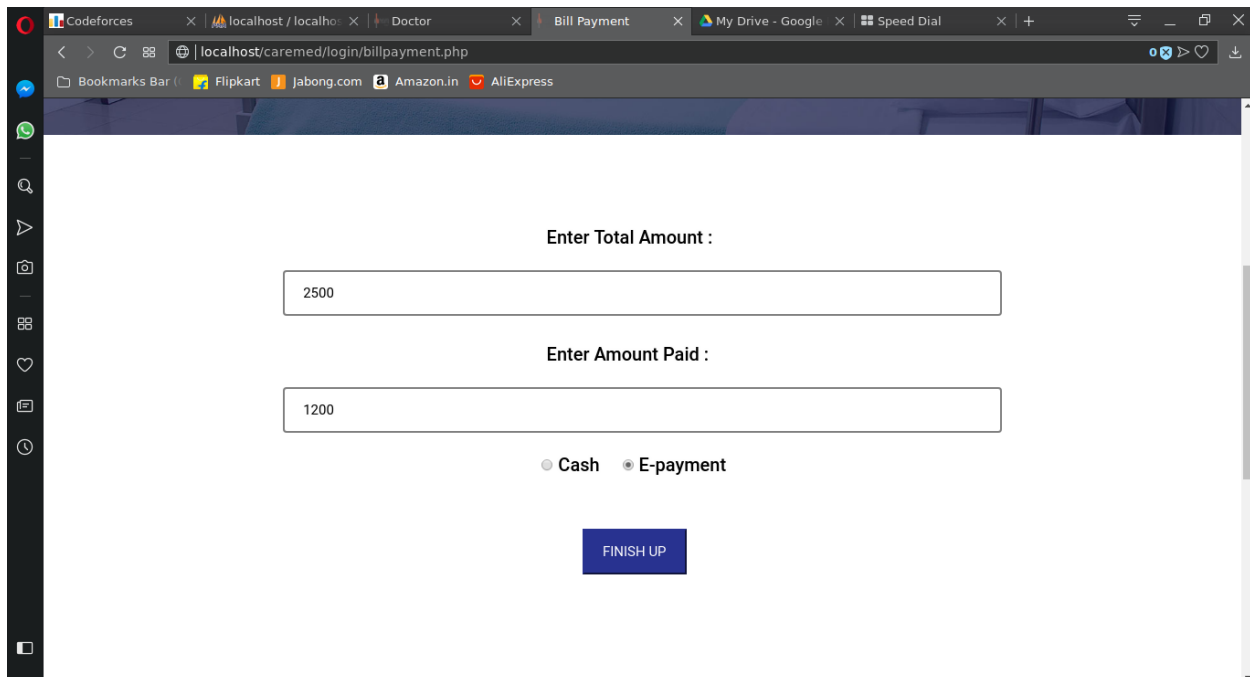
Select Doctor

Select Nurse

Select Wardboy

PROCEED TO PAY BILL

BILL PAYMENT



localhost/caremed/login/billpayment.php

Enter Total Amount :

2500

Enter Amount Paid :

1200

☐ Cash ☒ E-payment

FINISH UP

FINAL STATUS OF DATABASE

The screenshot shows the phpMyAdmin interface for a database named 'medanta'. The left sidebar displays the database structure, including 'information_schema', 'medanta', 'mysql', and 'performance_schema'. The 'medanta' database is selected, showing a list of tables: 'admin', 'doctor', 'nurse', 'patient', 'receptionist', and 'wardboy'. The 'Structure' tab is active, displaying the table details for each table. The 'Console' at the bottom shows the prompt 'Press Ctrl+Enter to execute query'.

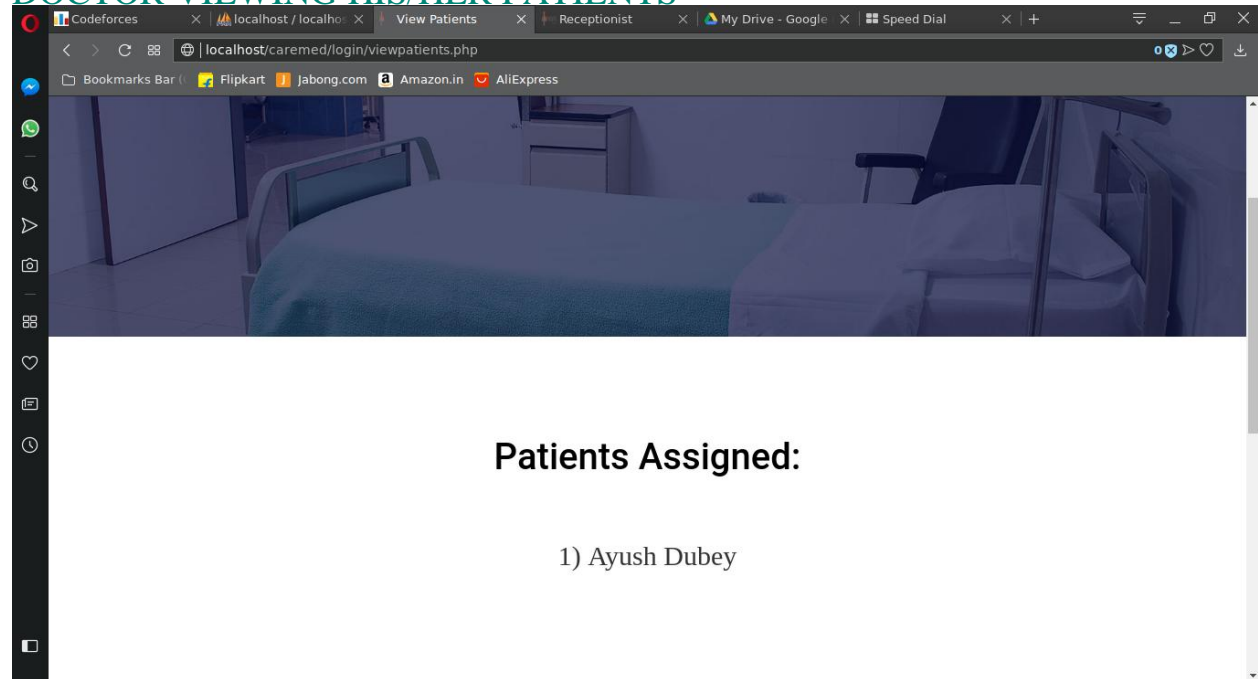
Table	Action	Rows	Type	Collation	Size	Overhead
admin	Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	16 KiB	-
doctor	Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	48 KiB	-
nurse	Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	16 KiB	-
patient	Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	80 KiB	-
receptionist	Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	16 KiB	-
wardboy	Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_swedish_ci	16 KiB	-
6 tables	Sum				192 KiB	0 B

DOCTOR LOGIN

The screenshot shows the 'Doctor Login' page. The page has a header image of a hospital room. Below the header, there is a login form with the following fields:

- Username :** A text input field containing the email address 'ayushdubey957@gmail.com'.
- Password :** A password input field with masked characters '.....'.
- LOG IN** button: A blue button with white text.

DOCTOR VIEWING HIS/HER PATIENTS



The screenshot shows a web browser window with the title "DOCTOR VIEWING HIS/HER PATIENTS". The address bar displays the URL "localhost/caremed/login/viewpatients.php". The browser's tabs include "Codeforces", "localhost / localho...", "View Patients", "Receptionist", "My Drive - Google", and "Speed Dial". The bookmarks bar lists "Flipkart", "jabong.com", "Amazon.in", and "AliExpress". The main content area features a header image of a hospital room with a bed and a desk. Below the image, the text "Patients Assigned:" is displayed, followed by a list containing "1) Ayush Dubey".

Patients Assigned:

1) Ayush Dubey



CONCLUSION

This project is basically designed for health care organizations. With daily technological advancement, we should also be updated. This is an era where every data is important and it is nearly a crime if we lose some data because who knows how important a data can be. Therefore the best way is to store the data in a proper organised way with the help of database. Here the fear of loss is literally minimized compared to hard copy storage.

In our system we are storing each and every detail regarding doctors, patients, and other staff members of the centre in their respective database tables thus minimizing the area of error.

Also the payment is done online during the time of registration.

Therefore this system can be useful in the outside world.

FUTURE ENHANCEMENTS:

This project is made using present technology. With more technological advancements, new technologies may come making the work more easier. This system can adapt to different environments as the base of the system i.e the database will remain the same in future despite the change in the technologies. We can add more features to this project as per the future needs such as letting the doctor update the patients information. We also plan on introducing automation to assign doctors as per the requirements of patients and availability of doctors.



REFERENCES:

1. Wikipedia
2. <https://www.w3schools.com/sql>
3. <https://www.w3schools.com/php>
4. <https://www.w3schools.com/bootstrap>
5. <https://www.w3schools.com/css>
6. <https://www.w3schools.com/javascript>
7. <https://www.medanta.org>